Project #1 – Visualization Critique

The visualization that I selected is from viz.wtf.com where it displays misleading graphs and allows users to have discussions on the charts' disadvantages and remedies.

The data is from the Animal Asia Survey where it collects responses from 1,432 people in the rural areas on why they keep dogs in China. It contains seven categorical variables and their corresponding proportions. In this survey, each respondent could choose more than one reason. Therefore, the sum of the proportions does not equal to 1. The main reason that the Chinese keep their dogs is to guard their properties, but they also want dogs for companionship (45.1%) and pleasure (33.8%). The purpose of the illustration is to show why the household kept dogs and compare the reasons to one another. In this case, it uses pie chart to show the different categories and their proportions.

This chart is misleading and inappropriate for this data. Firstly, the size of each slice is not proportional to the percentages that are listed. For example, the data shows that 93.6% of the people keep dogs because they want to guard their properties, but its slice only occupies less than half of the pie chart. Secondly, the percentages of each category do not add up to 100% because the respondents can choose multiple reasons. Thirdly, the chart should include numeric values and their proportions because the numbers can help the users to see the differences between the categories. Fourthly, the distorting effects of the pie chart make it harder for the users to compare the slices, especially with the gaps in between. Lastly, it is better to use different colors to indicate the categories because it is harder to distinguish the groups in slices as the levels of color brightness get lighter.

Although this chart does not effectively communicate its author's message, it has some good aspects that are effective. For example, it uses words and pictures to show the different

categories, which is visually appealing to the users and can help them to identify the different groups easier. It also includes annotations that can help the people to distinguish the proportions because it is difficult to discern the percentages visually, especially when they are small. Moreover, it has a good order for slices as it starts from the top and its ordering goes from the largest to the smallest. The number of slices is also appropriate in this case because the users can clearly see each category. It can be difficult to see when a pie chart includes many small slices with the same color but different brightness.

For this specific dataset, a better illustration should be a bar chart because the pie chart is comparing each category to the whole instead of each other. In addition, it is difficult to tell the difference between different categories in a pie chart when their percentages are close. Ideally, we should have a vertical or horizontal bar chart where the X-axis is the categories (reasons that the dogs are kept in the Chinese households) and the Y-axis are the number of respondents and the percentages in each category. The chart would use different colors to indicate the categories and include the annotations in numbers and percentages in the legend. The goal of the illustration should be to show the audiences the main and common reasons that the Chinese people kept the dogs in households and this bar chart can summarize this categorical data and visualize their differences.